

# LONG-TERM EDUCATIONAL ATTAINMENT AND LABOR MARKET PARTICIPATION: A COHORT ANALYSIS

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## Abstract

This study examines the relationship between educational attainment and long-term labor market participation using longitudinal cohort data spanning 18 years from 2005 to 2023. Tracking a representative sample of 8,500 individuals from four distinct educational attainment categories, we analyze employment trajectories, occupational mobility, earnings progression, and labor force attachment over the adult life course. The results demonstrate that educational attainment remains a powerful predictor of labor market outcomes, but that the strength and nature of this relationship has evolved substantially over the study period. Higher educational attainment is associated with greater employment stability, higher cumulative earnings, and more frequent upward occupational mobility. However, the premium associated with tertiary education has shifted from generalized wage advantages toward differential resilience during economic downturns and greater adaptability to changing occupational demands.

## 1. Introduction

The relationship between education and labor market outcomes is among the most extensively documented in social science. Human capital theory posits that educational investments enhance individual productivity and are rewarded through higher wages and better employment prospects. Decades of empirical research have confirmed a robust positive association between educational attainment and various measures of labor market success. However, several developments suggest that the nature of the education-labor market relationship may be evolving. Technological change has altered the skill requirements of many occupations, potentially affecting the returns to different types of educational credentials. Expansion of tertiary education has increased the supply of credentialed workers, possibly moderating wage premiums. Economic disruptions have highlighted differential vulnerability across skill levels. This study examines these dynamics using longitudinal data that captures individual labor market trajectories over nearly two decades.

## 2. Methodology

The study draws on a longitudinal panel survey that has followed a cohort of 8,500 individuals since 2005, when participants were aged 22 to 30 years. The sample was stratified by educational attainment into four categories: less than secondary completion, secondary completion, post-secondary non-tertiary certification, and tertiary degree completion. Annual follow-up surveys collected information on employment status, occupation, earnings, job satisfaction, and training participation. The analytical approach employs sequence analysis to identify distinct employment trajectory typologies, followed by multinomial regression to examine the association between educational attainment and trajectory type membership. Earnings analysis uses growth curve models to estimate attainment-specific earnings trajectories over the observation period. Resilience analysis examines employment stability during the economic contractions of 2009 and 2020, comparing job loss probabilities and re-employment durations across educational categories.

## 3. Results and Findings

Sequence analysis identifies six distinct employment trajectory types: stable continuous employment (38 percent of the sample), ascending career progression (17 percent), lateral occupational movement (15 percent), intermittent employment with recovery (13 percent), sustained underemployment (10 percent), and persistent labor force detachment (7 percent). Educational attainment is strongly associated with trajectory type, with tertiary-educated individuals disproportionately represented in the stable employment and ascending progression categories. Earnings growth curve models confirm sustained earnings advantages associated with higher educational attainment, but reveal important temporal dynamics. The initial earnings premium for tertiary education relative to secondary completion was approximately 42 percent at the start of the observation period, growing to 58 percent by 2023. However, decomposition reveals that an increasing share of this premium reflects differential earnings resilience during economic downturns rather than continuous wage growth advantages. During the 2020 economic disruption, tertiary-educated workers experienced job loss rates 60 percent lower than workers with secondary education only, and those who did experience displacement returned to employment on average 4.3 months sooner.

## 4. Conclusion

This longitudinal analysis confirms the enduring importance of educational attainment for labor market outcomes while revealing evolving mechanisms through which education affects employment trajectories. The growing importance of educational attainment as a source of labor market resilience rather than simply higher wages has implications for both education policy and workforce development strategy. Investments in educational access and completion may yield returns not only through enhanced productivity but also through greater workforce adaptability and economic stability during periods of disruption. Future research should examine how specific educational content and institutional quality interact with attainment levels to shape labor market trajectories.